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TITLE : PRODUCTION OF MULTILAYER CERAMIC ELECTRONIC PARTS

ABSTRACT : PROBLEM TO BE SOLVED: To suppress the formation of defects such as fissures or cracks in the internal structure, and to obtain highly reliable electronic parts by specifying the temp. raising rate at the time of removing a binder and firing of a multilayer ceramic green chip.

SOLUTION: When debinder of a multilayer ceramic green chip is carried out, the temp. rising rate is set to be not more than 25°C/hr in the temp. range of 20 to 200°C and to be not more than 50°C/hr in the temp. range of 200 to 600°C. The control of the temp. rising rate in the temp. range of 20 to 200°C suppresses rapid decomposition of a plasticizer and gradually decomposes the plasticizer to remove sufficiently and further accelerates the decomposition and removal of an organic binder. Rapid decomposition of the organic binder is suppressed, and the organic binder is gradually decomposed and sufficiently removed and no residual carbon presents at the inside of the finally sintered body by controlling the temp. raising rate in the temp. range of 200 to 600°C. For example, the multilayer ceramic green chip is heated at the prescribed temp. raising rate to 600°C while flowing gaseous nitrogen at the flow rate of 100 l/min using a batch-type atmospheric furnace, then keeping the temp. at the maximum temp. of 600°C for 5 hr to subject the chip to debinder and finally sintering the resultant chip at 1,300°C for 2 hr while flowing gaseous nitrogen at the flow rate of 50 l/min.

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